

Case 3111

***Pachycerianthus* Roule, 1904 (Cnidaria, Anthozoa): proposed designation of *P. multiplicatus* Carlgren, 1912 as the type species**

Eamonn Kelly and Brendan F. Keegan

Benthos Research Group, Department of Zoology, Martin Ryan Marine Science Institute, National University of Ireland, Galway, Ireland
(e-mail: eamonn.kelly@nuigalway.ie)

Abstract. The purpose of this application is to designate *P. multiplicatus* Carlgren, 1912 as the type species of the cerianthid genus *Pachycerianthus* Roule, 1904 in place of the original type species *P. benedeni* Roule, 1904. Only the holotype has ever been assigned to the latter species; this specimen is untraceable and its description does not permit proper interpretation of the genus.

Keywords. Nomenclature; taxonomy; Cnidaria; Anthozoa; Ceriantharia; *Pachycerianthus*; *Pachycerianthus multiplicatus*; *Pachycerianthus benedeni*.

1. The Ceriantharia are solitary tubicolous anemone-like anthozoans. Unlike the more familiar Actiniarian anemones, they possess two distinct whorls of tentacles and lack a pedal disc. Den Hartog (1977) accepted the basic classification of Carlgren (1912), but he noted (p. 237) that a revision of the group 'is badly needed'. Arai (1965) has given an extensive glossary of the anatomical terms used in the discussion and classification of the Ceriantharia.

2. Roule (1904a, p. 793) based the new genus *Pachycerianthus* on a single specimen from the Inland Sea of Japan [no depth or locality cited] which had been sent to him by J. Bell of the British Museum. Later the same year (Roule, 1904b) he published a further account of the specimen, particularly mentioning structures which he called 'aconties', and designated (p. 709) the nominal species *P. benedeni* (p. 708) based on it as the type species of *Pachycerianthus*.

3. McMurrich (1910, p. 35) revised the classification of the Ceriantharia and placed *Pachycerianthus* in the family ARACHNACTIDAE (type genus *Arachnactis* Sars, 1846). He considered that the 'aconties' mentioned by Roule were not comparable to the true acontia of the Actiniaria, but were structures later (Pax, 1914, p. 394) called acontiods. However, Carlgren (1912, p. 40) differed: he believed that the 'aconties' were craspedonemes and he allocated *Pachycerianthus* to the CERIANTHIDAE (type genus *Cerianthus* Chiaje, 1830), whose members lack acontiods. Den Hartog (1977, pp. 237–238) placed *Pachycerianthus*, as a supposed member of the CERIANTHIDAE, in the Suborder Spirularia which is diagnosed by, among other features, a 'more or less distinct' quatroseptal arrangement of the mesenteries; however, the biseptal arrangement described by Roule (1904b, p. 709) for *P. benedeni* is characteristic of the Suborder Penicillaria which contains the ARACHNACTIDAE.

4. Arai (1965, p. 207) agreed with Carlgren that in mentioning 'aconties' Roule had probably been referring to craspedonemes, but she noted that the anatomical

problems, and hence the original taxonomic meaning of *Pachycerianthus*, could only be solved by reference to the holotype of *P. benedeni*. She was unable to locate this in Paris, London or Monaco, and we have approached a total of 43 museums (a list of which has been given to the Commission Secretariat) and have been unable to find either the holotype or any other specimen assigned to *P. benedeni*. It is not easy to obtain a new specimen for designation as a neotype due to the imprecision of the original description and type locality, and the nature of the type species of *Pachycerianthus* remains obscure.

5. We propose that *P. multiplicatus* Carlgren, 1912 (p. 5) should be designated as the type species. This taxon has always been placed in the genus, the original description is clear, and the type specimens (from Trondheim and the Kattegat) still exist in the Zoologisk Museum at the University of Copenhagen. The adoption of this species as the type would preserve the understanding of *Pachycerianthus* as it has been since Carlgren (1912) and facilitate the revision of the Ceriantharia suggested by Den Hartog (1977).

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous fixations of type species for the nominal genus *Pachycerianthus* Roule, 1904 and to designate *P. multiplicatus* Carlgren, 1912 as the type species;
- (2) to place on the Official List of Generic Names in Zoology the name *Pachycerianthus* Roule, 1904 (gender: masculine), type species by designation in (1) above *Pachycerianthus multiplicatus* Carlgren, 1912;
- (3) to place on the Official List of Specific Names in Zoology the name *multiplicatus* Carlgren, 1912, as published in the binomen *Pachycerianthus multiplicatus* (specific name of the type species of *Pachycerianthus* Roule, 1904).

Acknowledgements

We should like to express our thanks to the curatorial staff of the natural history museums contacted during this work, and to Dr Hiroshi Namikawa of the Natural History Museum in Tokyo.

References

- Arai, M.N. 1965. A new species of *Pachycerianthus*, with a discussion of the genus and an appended glossary. *Pacific Science*, **19**: 205–218.
- Carlgren, O. 1912. Ceriantharia. *The Danish Ingolf-Expedition*, vol. 5, part 3. 80 pp., 5 pls. Hagerup, Copenhagen.
- Den Hartog, J.C. 1977. Descriptions of two new Ceriantharia from the Caribbean region: *Pachycerianthus curacaoensis* N. SP. and *Arachnanthus nocturnus* N. SP., with a discussion of the cnidom and of the classification of the Ceriantharia. *Zoologische Mededelingen*, **51**(14): 211–248.
- McMurrich, J.P. 1910. The Actiniaria of the Siboga Expedition. Part 1. Ceriantharia. *Siboga-Expeditie*, vol. 15a. 48 pp., 1 pl. Brill, Leiden.
- Pax, F. 1914. Die Actinien. *Ergebnisse und Fortschritte der Zoologie*, **4**: 339–642.
- Roule, L. 1904a. Note préliminaire sur quelques formes nouvelles de Cérianthaires. Pp. 791–793 in *Compte Rendu de l'Association Française pour l'Avancement des Sciences*, 32me session (Angers, 1903).

- Roule, L.** 1904b. Sur un Cérianthaire nouveau. *Compte Rendu de l'Académie des Sciences*, **138**: 708–710.
-

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).